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May 28, 1999

Mr. Dale Hatfield
Chief – Office of Engineering and Technology
Federal Communications Commission
The Portals
445 12th Street, SW
Washington, DC 20554

Re: Final Service Outage Report

Dear Mr. Hatfield:

In accordance with the requirements in CC Docket 91-273, enclosed is the Final Service Disruption Report for the Bell Atlantic service outage affecting Wakefield and Stoneham in northeastern Massachusetts, which occurred on April 28, 1999.

Please call me if you have any questions about this report or other service outage issues.

Sincerely,

Enclosure

cc: R. Kimball

BELL ATLANTIC – MASSACHUSETTS
FCC NETWORK DISRUPTION
FINAL SERVICE DISRUPTION REPORT

This Final Service Disruption Report is filed by Bell Atlantic on behalf of its telephone operating company, Bell Atlantic-Massachusetts (BA-MA), in accordance with Section 63.100 of the Commission's Rules in the Second Report and Order in CC Docket 91-273, 9 FCC Rcd 3911 (1994), as revised by the Order on Reconsideration, released October 30, 1995, 10 FCC Rcd 11764 (1995). Bell Atlantic filed an Initial Report on April 28, 1999 notifying the Commission of an outage that occurred on that day affecting Wakefield and Stoneham in northeastern Massachusetts.

On Wednesday, April 28, 1999 at 2:16 AM, the Wakefield Central Office (WKFDMABEDS0), a DMS 100/200 and 911 Tandem Host, failed. The loss of the DMS 100/200 was caused by an inadvertent short to the -48V DC power during a planned upgrade. Bell Atlantic personnel were adding -48V power equipment to the existing Lorain Power Plant. The technicians were removing (4) existing 750 MCM cables that ran from the existing Collector Bus Bar above battery string "F" to the existing Battery "chandelier." During the removal process a technician placed an energized battery cable on a R-3154 protective rubber sheeting covering the Battery Return Bus Bar. Inadvertent contact between the energized 750 MCM cable and the battery bus created an arc which caused the Power Converters in the DMS 100/200 switch to trip its circuit protection. The tripped circuit protectors/breakers resulted in loss of DC power to the circuit packs in each DMS bay. Efforts to restore the failed DMS 100/200 switch continued until service was fully restored by 6:15 AM.

Date of Incident:

Wednesday April 28, 1999

Time of Incident:

02:16 AM

Duration of Outage:

3 Hours, 59 minutes

Geographic Area Affected:

Northeastern Massachusetts

Estimated Number of Customers Affected:

This outage affected approximately 33,000 access line

Type of Services Affected:

This outage affected all switched traffic to and from the Wakefield Central Office, Special Access/Private Line services and 911 Emergency Services.

Estimated Number of Blocked Calls:

Bell Atlantic estimates there were approximately 2800 calls blocked as a result of this failure.

Cause of the Incident, Including Name and Type of Equipment Involved and Specific Part(s) of the Network Affected:

Root Cause Analysis:

Direct Cause: A DC power short caused the circuit breakers to trip, shutting down power to the circuit packs in each DMS bay.

Affected Element: Wakefield DMS100/200 (E911 Tandem Host)

Outage Cause: The mishandled cable came in contact with the Battery Bus and created an abnormal condition (arc).

Duration Cause: A lack of coordination among the support personnel for the proper sequence and recovery procedures caused a delay in restoring the LCMs.

Root Cause Finding:

This outage was caused by the failure of Bell Atlantic personnel to follow existing procedures related to the work operation being performed. The MOP failed to detail sufficiently the work being performed and did not indicate the required safety and equipment protection procedures required to ensure service continuity.

Methods Used to Restore Service:

At 02:30 AM, the Network Operations Center contacted E911 and the tandem 911traffic was rerouted through the back-up tandem in Medfield. Switch, Facility and Power technicians were dispatched to

the Central Office. At 04:44 AM, the power converters were restored in the switch, restoring dial tone to one RCS (Remote Concentrating Subscriber Line Carrier). Dial tone to the first Line Concentrating Module (LCM) was restored at 05:27 AM and the switch resumed full call processing at 06:15 AM.

Current or Proposed Company Practices Related to this Outage:

Bell Atlantic documentation E.I. IP-72201/ Handbook-22 for equipment installation applies to this outage. In accordance with company practice, this work operation was being performed during "safe time."

Network Reliability Council "Best Practices" That Relate To This Incident:

The following "Best Practice" recommended by the Network Reliability Council in their report "Network Reliability: A Report to the Nation," applies to this outage: Section E, Paragraph 6.8.2.2, Installation/Removal Work, relating to method of procedure and installation guidelines.

Describe How The NRC Recommendation(s) Could Have Prevented This Outage:

Bell Atlantic did adhere to the NRC recommendation with an MOP, however the technicians neglected to follow the company's installation guidelines and procedures.

Steps Taken to Prevent Recurrence:

- Proper procedures for working with in-service equipment will be reviewed with Equipment Installation (E.I.) technicians.
- Correct MOP and safety procedures will be reviewed with Network Operations personnel.
- Engineering is investigating alternative options for protective sheeting than what is currently being used.
- Bell Atlantic personnel have reviewed the coordination process for restoral and recovery in order to prevent similar delays from occurring in the future.